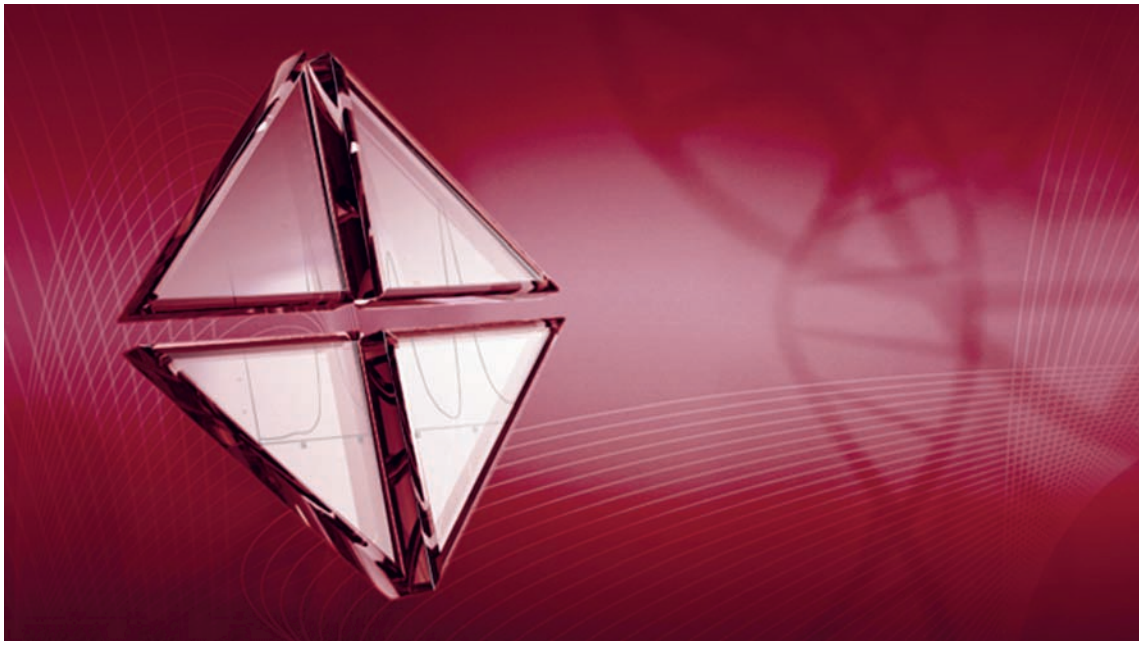
GE Healthcare

UNICORN™ 6

Advanced system administration



UNICORN

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1 Introduction

This document contains information that is relevant for UNICORN 6 network deployments and additional details about Windows™ settings that are not included in the UNICORN 6 Administration and Technical Manual. It describes software settings and selections necessary in order for the UNICORN client and server computers to operate as intended in a network environment. Issues addressed include

- Prerequisite application installations
- Windows user names and passwords
- Local settings for component services
- Firewall settings
- Services and ports used
- Upgrading the SQL Server version

The document also includes instructions for how to uninstall UNICORN 6 and SQL Server Express manually if the installation has become corrupted and cannot be uninstalled using the normal procedures.

2 User, client computer and database server set up

Introduction

This chapter provides information about the Windows user setup and computer settings which, for most parts, is not included in the UNICORN 6 Administration and Technical Manual. The settings described are necessary in network deployments. The chapter also contains information about basic computer configuration and prerequisite installations.

General computer recommendations

The table below is an overview of the general computer recommendations for UNICORN 6 installation options.

	Full installation	UNICORN Remote client	UNICORN Database and E-license Server	UNICORN Instrument Server and local client
Minimum free disc space	11 GB	1 GB	6 GB	5 GB
Minimum available RAM	3 GB (both Windows XP Professional and Vista)	2 GB on Windows XP Professional 3 GB on Windows Vista	2 GB on Windows XP Professional 3 GB on Windows Vista	2 GB on Windows XP Professional 3 GB on Windows Vista
Disc format	NTFS	NTFS	NTFS	NTFS
Operating systems including service packs	Windows XP Professional , SP3 Windows Vista Business, SP1	Windows XP Professional , SP3 Windows Vista Business, SP1	Windows XP Professional , SP3 Windows Vista Business, SP1	Windows XP Professional , SP3 Windows Vista Business, SP1

	Full installation	UNICORN Remote client	UNICORN Database and E-license Server	UNICORN Instrument Server and local client
Operating system language	English (US)	English (US)	English (US)	English (US)
Architecture	x86, Dual Core (or more)	x86, Dual Core (or more)	x86, Dual Core (or more)	x86, Dual Core (or more)

Hard disk compression

The hard disks of the computers where UNICORN 6 is installed should not be compressed.

Computer configuration with Windows XP™

Follow the instructions below to configure a Windows XP computer before installing UNICORN:

Step	Action
1	Install Windows XP Professional. Ensure that Service Pack 3 is included in the installation. • Select US English as the Language Option. • Set the regional settings to use the US standard for decimal delimiter, which is a decimal point (".").
2	Install any additional hardware drivers that may be needed, for example network, graphics, sound or chipset drivers. See also *"Install extra network cards"* below.
3	Since a dual core computer is the recommended minimum for UNICORN 6, ensure that all cores of the processor are running.

Step	Action
4	Install the following prerequisite applications in the exact order listed below [1]: 1 ***{912F19C1-DFD2-487F-A168-2E98B5FFC30E}\WindowsXP-KB942288-v3-x86.exe*** (Microsoft Windows Installer 4.5) ***Note:*** *This installation will normally force a re-start of the computer.* 2 ***{FBAF5483-7C07-40A3-BD50-9B1FA8FDCA65}\dotnetfx35sp1.exe*** (Microsoft .NET Framework 3.5 SP1) ***Note:*** *This installation will normally force a re-start of the computer.* 3 ***{DA190F81-371E-49E3-A4DF-1E657E148FE5}\WindowsXP-KB926139-v2-x86-ENU.exe*** (Windows PowerShell 1.0) 4 ***{11BC222D-3482-4200-9C1A-1C004D2D6C2C}\msxml.msi*** (Microsoft Core XML Services 4.0 SP2) 5 ***{11BC222D-3482-4200-9C1A-1C004D2D6C2C}\msxml6.msi*** (Microsoft Core XML Services 6.0) ***Note:*** *If MSXML 6.0 SP2 is already installed, this installation may fail. If so, this step can be skipped and the newer version will work as intended.* 6 ***{E9D60B10-81E0-4ED1-A3D7-153977F29467}\vcredist_x86.exe*** (Microsoft Visual C++ 2005 Redistributable Package)
5	Verify that all cores of the processor are still running.
6	Turn off Windows Update: 1 Open the Windows ***Control Panel*** (in ***Category View***). 2 Choose ***Security Center***. 3 Choose ***Automatic Updates***. *Result:* The ***Automatic Updates*** dialog opens. 4 Select the ***Turn off Automatic Updates*** option. 5 Click the ***OK*** button to apply the settings and close the dialog. 6 Close the ***Windows Security Center*** dialog. Proceed with the next step without closing the ***Control Panel***.

Step	Action
7	Disable power save mode: 1 Choose ***Performance and Maintenance*** in the ***Control Panel***. 2 Choose ***Power Options***. *Result:* The ***Power Options Properties*** dialog opens. 3 Disable all power save settings. 4 Click the ***OK*** button to apply the settings and close the dialog. 5 Close the ***Performance and Maintenance*** dialog.
8	Turn off the Windows screen saver: 1 Right-click anywhere in the Windows desktop and choose ***Properties*** from the shortcut menu. 2 Click the ***Screen Saver*** tab. 3 Choose ***[None]*** from the ***Screen Saver*** menu. 4 Click the ***OK*** button to apply the settings and close the dialog.

1 All listed prerequisites are available on the UNICORN 6 installation DVD in the ISSetupPrerequisites folder.

Computer configuration with Windows Vista™

Follow the instructions below to configure a Windows Vista computer before installing UNICORN:

Step	Action
1	Install Windows Vista Business Edition. Ensure that Service Pack 1 is included in the installation. • Select US English as the Language Option. • Set the regional settings to use the US standard for decimal delimiter, which is a decimal point (".").
2	Install any additional hardware drivers that may be needed, for example network, graphics, sound or chipset drivers. See also *"Install extra network cards"* below.

Step	Action
3	Since a dual core computer is the recommended minimum for UNICORN 6, ensure that all cores of the processor are running.
4	Install the following prerequisite applications in the exact order listed below [1]: 1 ***{6BD3444F-03E6-4E21-BAD0-50E6A5820433}\Windows6.0-kb942288-v2-x86.msu*** (Microsoft Windows Installer 4.5 for Windows Vista and Server 2008) ***Note:*** *This installation will normally force a re-start of the computer.* 2 ***{FBAF5483-7C07-40A3-BD50-9B1FA8FDCA65}\dotnetfx35sp1.exe*** (Microsoft .NET Framework 3.5 SP1) ***Note:*** *This installation will normally force a re-start of the computer.* 3 ***{DA190F81-371E-49E3-A4DF-1E657E148FE5}\Windows6.0-KB928439-v2-x86.msu*** (Windows PowerShell 1.0 Vista) 4 ***{11BC222D-3482-4200-9C1A-1C004D2D6C2C}\msxml.msi*** (Microsoft Core XML Services 4.0 SP2) 5 ***{11BC222D-3482-4200-9C1A-1C004D2D6C2C}\msxml6.msi*** (Microsoft Core XML Services 6.0) ***Note:*** *If MSXML 6.0 SP2 is already installed, this installation may fail. If so, this step can be skipped and the newer version will work as intended.* 6 ***{E9D60B10-81E0-4ED1-A3D7-153977F29467}\vcredist_x86.exe*** (Microsoft Visual C++ 2005 Redistributable Package)
5	Verify that all cores of the processor are still running.

Step	Action
6	Turn off Windows Update: 1 Open the Windows ***Control Panel*** (in ***Category View***). 2 Choose ***Windows update***. 3 Choose ***Change settings***. *Result:* The ***Change settings*** dialog opens. 4 Select the ***Never check for updates*** option. 5 Click the ***OK*** button to apply the settings and close the dialog. 6 Click the ***Back*** button to return to the ***Control Panel***. Proceed with the next step without closing the ***Control Panel***.
7	For some graphic cards, the Vista Aero color scheme will be selected by default. If this is the case, the Vista Aero color scheme must be turned off manually: 1 Choose ***Appearance and personalization***. 2 Choose ***Change the color scheme*** under ***Personalization***. *Result:* The ***Appearance Settings*** dialog opens. 3 Set the ***Color scheme*** to ***Windows Vista Basic*** and 4 click the ***OK*** button. 5 Close the ***Control Panel***.
8	Turn off the Windows screen saver: 1 Right-click anywhere in the Windows desktop and choose ***Properties*** from the shortcut menu. 2 Click the ***Screen Saver*** tab. 3 Choose ***[None]*** from the ***Screen Saver*** menu. 4 Click the ***OK*** button to apply the settings and close the dialog.

Step	Action
9	Turn off IPV6: *Either* • Add a dword value named ***DisabledComponents*** with the value ***000000ff*** to the registry entry ***[HKEY-LOCAL-MACHINE\SYSTEM\CurrentControlSetServices\Tcpip6\Parameters]*** *or* • Create and execute a ***.reg*** file with the contents shown below: **----------** ***Windows Registry Editor Version 5.00*** ***[HKEY-LOCAL-MACHINE\SYSTEM\CurrentControlSetServices\Tcpip6\Parameters]*** ***"DisabledComponents"=dword:000000ff*** **----------**

1 All listed prerequisites are available on the UNICORN 6 installation DVD in the ISSetupPrerequisites folder.

Install extra network cards

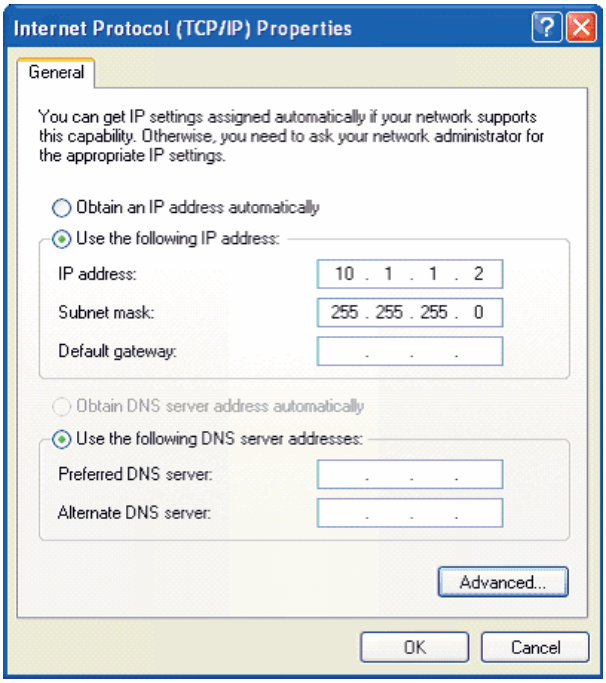
To ensure optimal performance and to ensure that an ongoing run can be completed even if the main network or database is inaccessible, it is recommended that computers operating as instrument servers are equipped with an extra network interface card dedicated for the communication between the ÄKTAavant instrument and the server computer. This is necessary both for computers operating with Windows XP and for computers operating with Windows Vista.

Follow the instruction below to install and configure this network card:

Step	Action
1	Install the Network Interface Card according to the installation instructions provided by the manufacturer.
2	Open the Windows ***Control Panel*** (in ***Category View***).
3	Choose ***Network and Internet Connections***.
4	Choose ***Network Connections***. *Result:* The ***Network Connections*** dialog opens.

Step	Action
5	• Right-click the network connection for the Network Interface Card which will be used for the instrument communication and choose ***Rename*** from the shortcut menu.. • Rename the network connection ***AKTA***. (This will enable GE Healthcare field service staff to easily identify the dedicated instrument communication card)
6	Choose the ***Advanced:Advanced Settings*** menu item in the ***Network Connections*** dialog. *Result:* The ***Advanced Settings*** dialog opens.
7	• Select the network connection for the Network Interface Card in the ***Connections*** list in the ***Adapters and Bindings*** tab. • Click the up arrow button to move this network connection to the top of the list. • Click the ***OK*** button to apply the settings and close the ***Advanced Settings*** dialog.
8	• Double-click the instrument network connection. *Result:* The ***Status*** dialog opens. • Click the ***Properties*** button in the dialog. *Result:* The ***Properties*** dialog opens.
6	Select ***Internet Protocol (TCP/IP)*** and click the ***Properties*** button. *Result:* The ***Internet Protocol (TCP/IP) Properties*** dialog opens.

Step	Action
7	Select ***Use the following IP address*** and enter • IP address: 10.1.1.2 • Subnet mask: 255.255.255.0

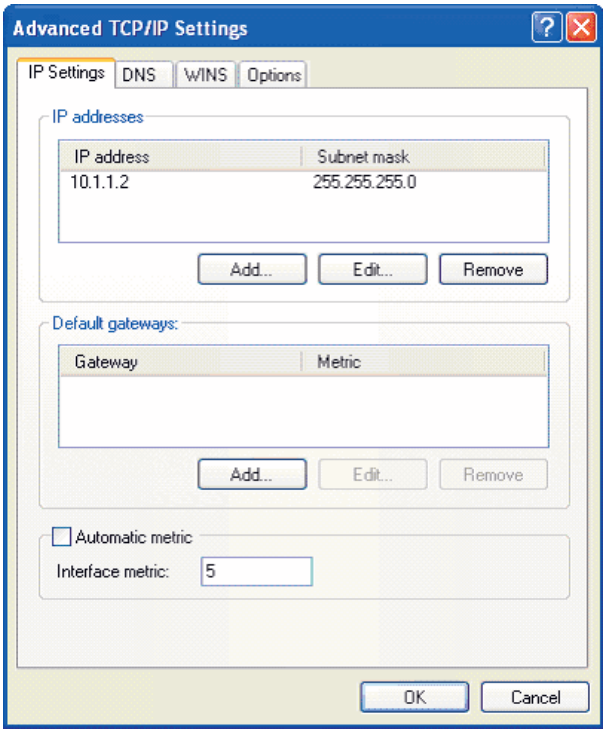

Internet Protocol (TCP/IP) Properties
General
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address:
10 . 1 . 1 . 2
Subnet mask:
255 . 255 . 255 . 0
Default gateway:
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server:
Alternate DNS server:
Advanced...
OK
Cancel

Note: *Do not enter a **Default gateway** in this dialog. If an adress is defined, it should be deleted.*

8 Click the ***Advanced*** button.

Result: The ***Advanced TCP/IP Settings*** dialog opens.

Step	Action
9	De-select the ***Automatic metric*** checkbox and set the ***Interface metric*** to 5:



10	• Click the ***OK*** button to apply the settings and close the ***Advanced TCP/IP Settings*** dialog. • Click the ***OK*** button to close the ***Internet Protocol (TCP/IP) Properties*** dialog. • Click the ***OK*** button to close the ***Properties*** dialog. • Click the ***Close*** button to close the ***Status*** dialog.
11	Close the ***Network Connections*** dialog.

Note: *The other Network Interface Card, which is used for network communication, will have the default metric setting 20. This will ensure that the communication between instrument server and instrument will be prioritized.*

Windows user names and passwords

Unless a domain controller is used, all users must have exactly the same user name and password on all computers running UNICORN. If a domain controller is used, the users will be created at the domain controller and not on each computer. This eliminates the need for synchronized user names and passwords.

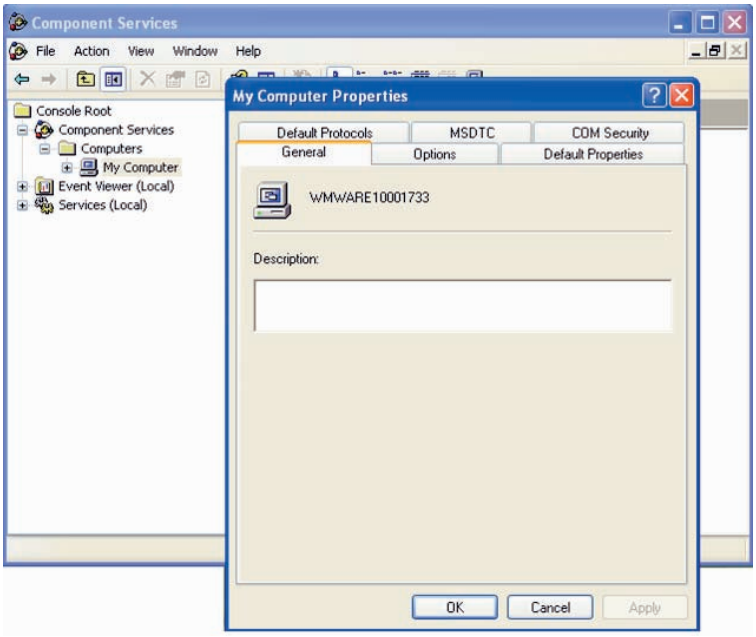
Component services

The table below describes the steps for how to set up the ***Component Services*** settings on a UNICORN computer.

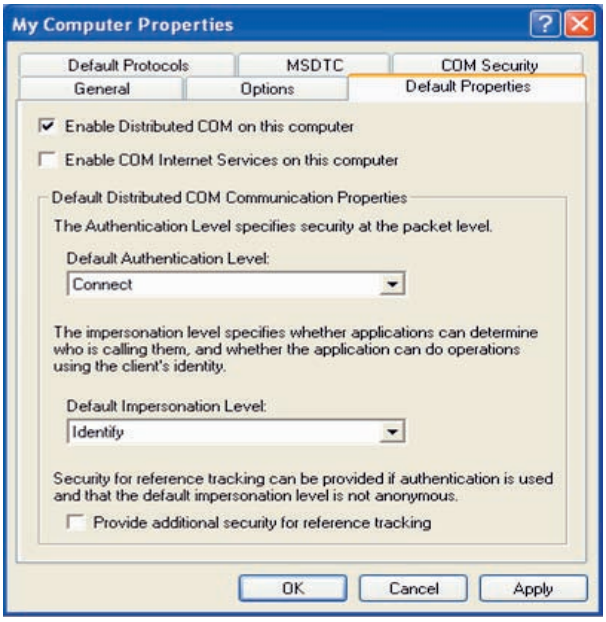
My Computer Properties

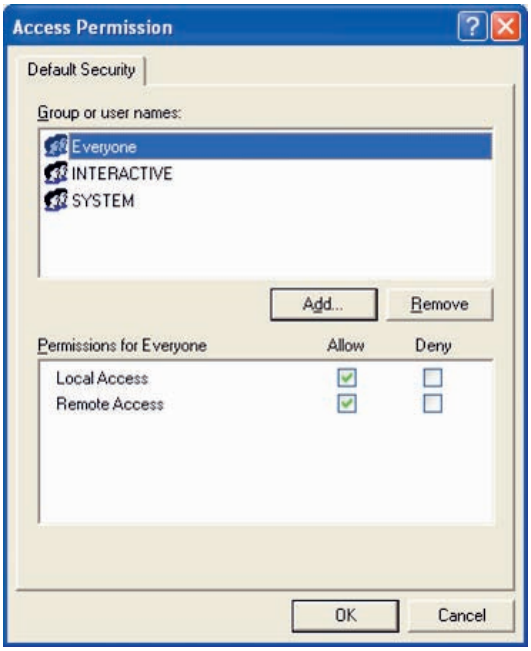
Step	Action
1	Open the ***Administrative Tools*** dialog from the Windows ***Control Panel***.
2	Double-click the ***Component Services*** icon to open the dialog.
3	Select ***Component Services*** in the tree structure and expand the tree to show ***My Computer***.

Step	Action
4	Right-click ***My Computer*** and choose ***Properties*** to open the ***My Computer Properties*** dialog.



Step	Action
5	Click the ***Default Properties*** tab and select the following: • ***Enable Distributed COM on this computer*** • ***Default Authentication Level*** set to ***Connect*** ***Note:*** *Client and server computers should all have corresponding* ***Default Authentication Level*** *settings and be in the same domain.*

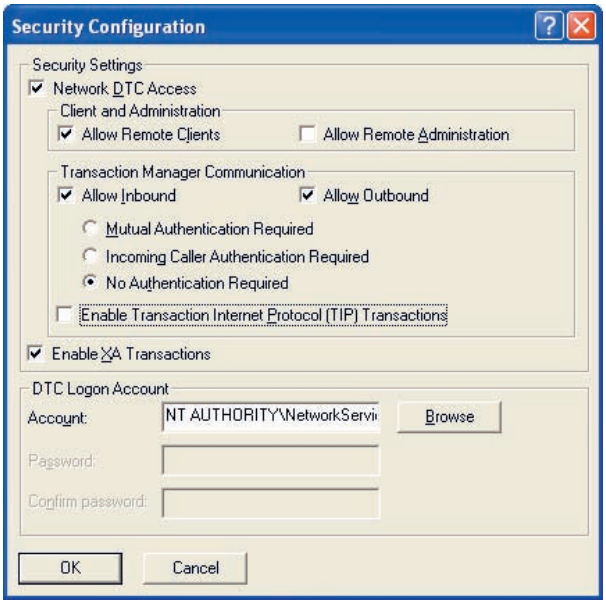

My Computer Properties
Default Protocols
MSDTC
COM Security
General
Options
Default Properties
Enable Distributed COM on this computer
Enable COM Internet Services on this computer
Default Distributed COM Communication Properties
The Authentication Level specifies security at the packet level.
Default Authentication Level:
Connect
The impersonation level specifies whether applications can determine who is calling them, and whether the application can do operations using the client's identity.
Default Impersonation Level:
Identify
Security for reference tracking can be provided if authentication is used and that the default impersonation level is not anonymous.
Provide additional security for reference tracking
OK
Cancel
Apply

Step	Action
6	Click the ***COM Security*** and click the ***Edit Default*** button in the ***Access Permissions*** field, to open the ***Access Permission*** dialog. • Add the group ***Everyone*** with permissions for ***Local Access*** and ***Remote Access***. • Click ***OK*** to apply and close the dialog. 
7	• Click the ***MSDTC*** tab and • click the ***Security Configuration*** button.

Step	Action

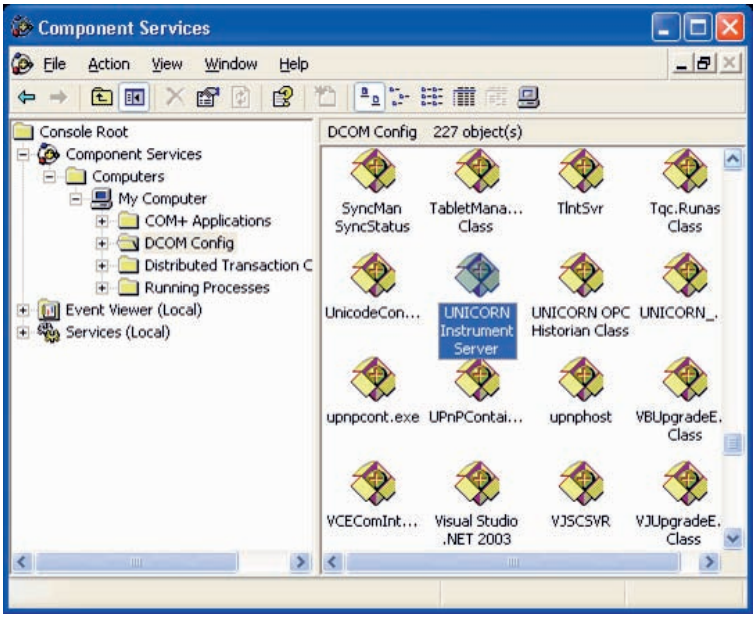
8	Select the following options in the ***Security Configuration*** dialog:
	• ***Network DTC Access***
	  - ***Allow Remote Clients***
	• ***Transaction Manager Communication***
	  - ***Allow Inbound***
	  and
	  - ***Allow Outbound***
	• ***Enable XA Transactions***

9	Click ***OK*** to apply the changes and close the ***Security Configuration*** dialog.
10	Click ***OK*** to close the ***My Computer Properties***. Proceed with the *UNICORN Instrument Server Properties* settings described below.

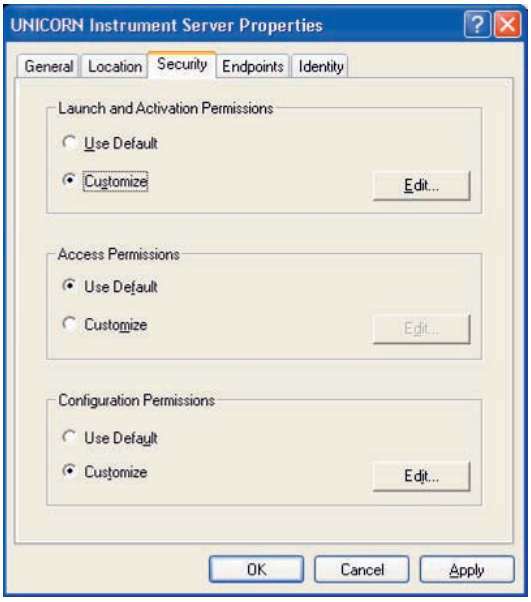


UNICORN Instrument Server Properties

Step	Action
1	• Select the ***DCOM Config*** folder and • locate and select the ***UNICORN Instrument Server*** icon.

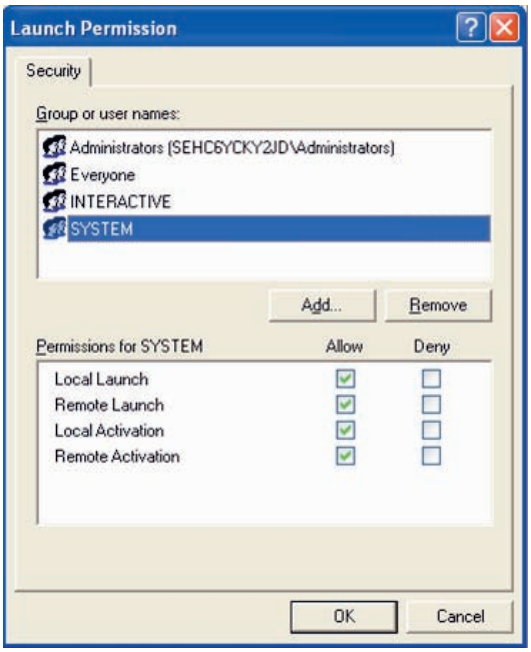


Step	Action
2	Right-click the icon and choose ***Properties*** to open the ***UNICORN Instrument Server Properties*** dialog.



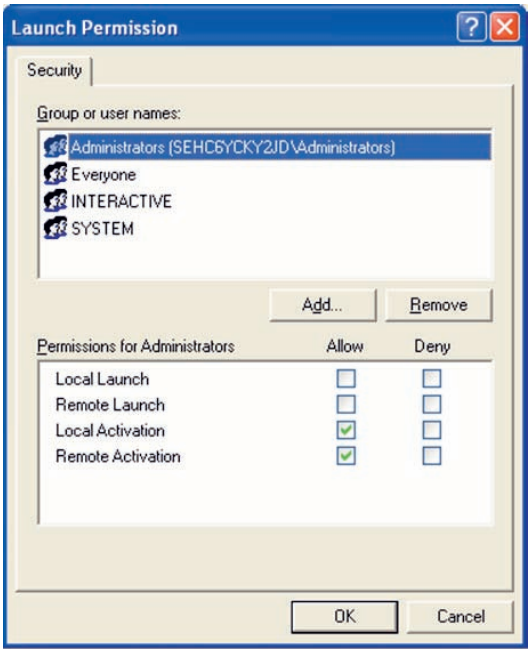
3	• Click the ***Security*** tab • Select ***Customize*** in the ***Launch and Activation Permissions*** field and • click the ***Edit*** button to open the ***Launch Permission*** dialog.

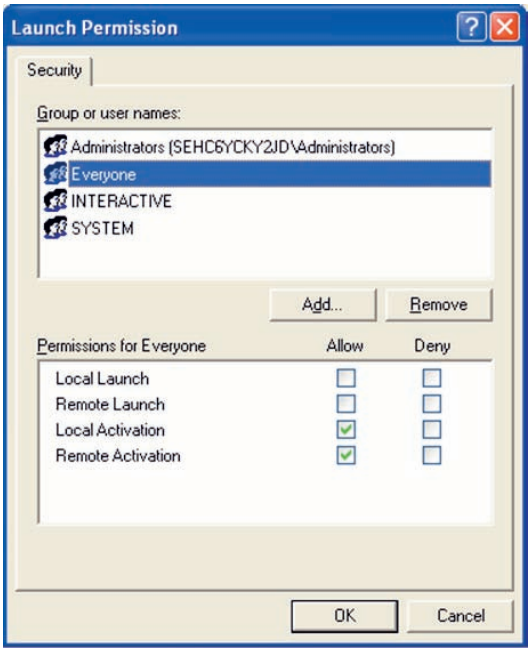
Step	Action
4	Select the ***SYSTEM*** user and choose ***Allow*** for all permissions:



Note: *Only the **SYSTEM** user should have **Launch** permissions.*

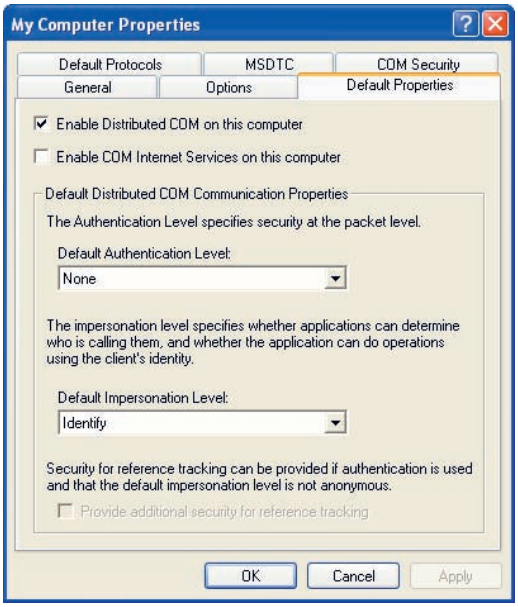
Step	Action
5	Select the ***Administrators*** user and choose ***Allow*** for the ***Local Activation*** and ***Remote Activation*** permissions:



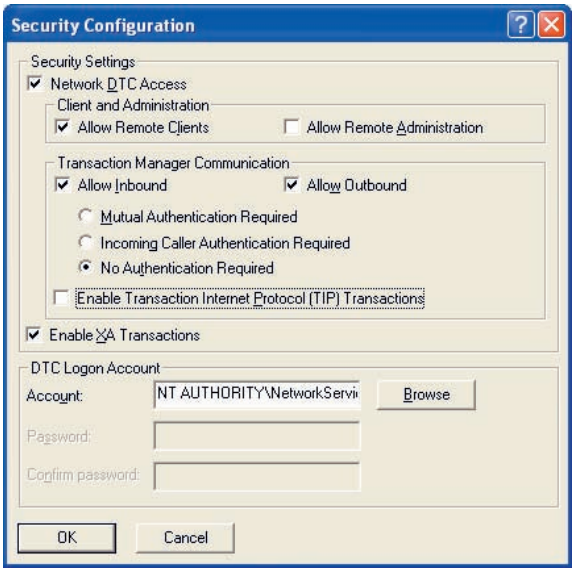
Step	Action
6	Select the ***Everyone*** user and choose ***Allow*** for the ***Local Activation*** and ***Remote Activation*** permissions: 
7	• Click ***OK*** to apply the changes and close the ***Launch Permissions*** dialog. • Click ***OK*** to close the ***UNICORN Instrument Server Properties*** dialog.

Additional settings for database servers running on Windows XP

If the database is running on a computer with Windows XP, the following settings must also be set:

In setting...	Also choose...
My Computer Properties: Default Properties: Default Authentication Level (Step 5 in instruction *My Computer Properties* above)	Default Autentication Level: ***None*** 

My Computer Properties
Default Protocols
MSDTC
COM Security
General
Options
Default Properties
Enable Distributed COM on this computer
Enable COM Internet Services on this computer
Default Distributed COM Communication Properties
The Authentication Level specifies security at the packet level.
Default Authentication Level:
None
The impersonation level specifies whether applications can determine who is calling them, and whether the application can do operations using the client's identity.
Default Impersonation Level:
Identify
Security for reference tracking can be provided if authentication is used and that the default impersonation level is not anonymous.
Provide additional security for reference tracking
OK
Cancel
Apply

In setting...	Also choose...
Security Configuration: Transaction Manager Communication (Step 8 in instruction *My Computer Properties* above)	***No Authentication Required***. 

3 OPC settings for UNICORN process picture

Introduction

The process picture in UNICORN 6 uses an industry standard called OPC, and is based on DCOM as the underlaying communication layer between client and instrument server.

This means that DCOM must be configured properly for the process picture shown on the client computer to be updated with live information from the instrument server.

There are differences in how to configure the computer depending on if the used operating system is Windows XP or Windows Vista. There are also differences depending on if the computers are within a Windows workgroup or a domain.

Prerequisites

Several of the following configuration scenarios require the installation of *OPC Core Components*. UNICORN 6 contains parts of that installation, but to get the process picture to work in certain configuration scenarios, the complete package is required. *OPC Core Components* can be installed from the UNICORN 6 installation media.

Windows XP

Normally, the process picture in UNICORN 6 should be able to communicate with the instrument server when running Windows XP in a domain. When Windows XP is used in a workgroup, there is a need for some additional settings before the process picture will work.

Step	Action
1	Install *OPC Core Components* on the instrument server. (Not necessary on the client)

Step	Action
2	If there is a firewall enabled on the instrument server: • Allow the ***OPCEnum*** service access (The executable file is located in the ***System32*** directory in the Windows installation directory, typically ***c:\windows\system32***) • Allow ***DCOM*** (port 135) access.
3	Make sure that the UNICORN clients and the instrument server are using the same subnet mask for the computer IP adresses.
4	Set the ***Local Security Policy*** setting ***Network access: Sharing and security module for local accounts*** to • ***Classic - Local users authenticate as themselves***. (Open ***Control Panel:Administrative Tools***, click ***Local Security Settings*** and locate this setting under ***Security Settings:Local Policies:Security Options*** in the dialog.)
5	In the same dialog: • Make sure that the setting ***Network access: Let Everyone permissions apply to anonymous users*** is enabled.
6	Make sure that the user account which is running the UNICORN client has an equivalent account (using the same name and password) on the instrument server computer. A password is required and cannot be omitted.

DCOM configuration

The following settings should be applied to both the remote client and the instrument server computers using the ***Component Services***:

Step	Action
1	Open the ***Component Services*** dialog: 1 Choose ***Start:Run*** 2 type ***dcomcnfg*** in the ***Open*** field and 3 click ***OK***.

Step	Action
2	Open the ***My Computer Properties*** dialog: 1 Click the + beside the ***Component Services*** object 2 Click the + beside the ***Computers*** object 3 Right-click on ***My Computer*** and choose ***Properties*** from the menu.
3	In the tab ***Default Properties***: 1 Verify that ***Enable Distributed COM...*** is checked 2 Set ***Default Authentication Level*** to ***Connect*** 3 Set ***Default Impersonation Level*** to ***Identify***
4	In the ***Default Protocols*** tab: • Verify that ***Connection-oriented TCP/IP*** is on top of the list.
5	In the ***COM Security*** tab: 1 Click the ***Edit Default*** button in the ***Access Permissions*** field and allow ***Everyone*** to have ***Local Access*** and ***Remote Access*** permissions. 2 Allow ***Anonymous logon*** to have ***Local Access*** and ***Remote Access*** permissions. 3 Click the ***Edit Limits*** button in the ***Access Permissions*** field and allow ***Everyone*** to have ***Local Access*** and ***Remote Access*** permissions. 4 Allow ***Anonymous logon*** to have ***Local Access*** and ***Remote Access*** permissions. 5 Click the ***Edit Default*** button in the ***Launch and Activation Permissions*** field and allow ***Everyone*** to have ***Local Launch***, ***Remote Launch***, ***Local Activation*** and ***Remote Activation*** permissions. 6 Click the ***Edit Limits*** button in the ***Launch and Activation Permissions*** field and allow ***Everyone*** to have ***Local Launch***, ***Remote Launch***, ***Local Activation*** and ***Remote Activation*** permissions.

Step	Action
6	Verify the UNICORN Instrument Server DCOM settings: 1 Click the + beside ***My Computer***. 2 Click the + beside the ***DCOM Config***. 3 Locate ***UNICORN Instrument Server.exe*** in the list, right-click and choose ***Properties*** from the menu. 4 Choose the ***Security*** tab. 5 Verify that ***Launch and Activation Permissions*** and ***Access Permissions*** both are set to ***Use Default***. 6 Click the ***Apply*** button (if changes have been made) or the ***OK*** button to close the ***Properties*** dialog.
7	Close the ***Component Services*** dialog.
8	Restart the computers after the DCOM settings have been applied.

Windows Vista

The User Account Control (UAC) feature in Windows Vista, combined with restrictions applied on DCOM when running UNICORN on Windows Vista computers in a workgroup, makes additional changes to the configuration necessary to allow the process picture to communicate with the instrument server. These settings can be applied to Windows Vista both in workgroups and domains if needed.

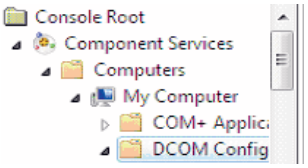
Step	Action
1	Install *OPC Core Components* on the instrument server. (Not necessary on the client)
2	If there is a firewall enabled on the instrument server: • Allow the ***OPCEnum*** service access (The executable file is located in the ***System32*** directory in the Windows installation directory, typically ***c:\windows\system32***) • Allow ***DCOM*** (port 135) access.
3	Make sure that the UNICORN clients and the instrument server are using the same subnet mask for the computer IP adresses.

Step	Action
4	Set the ***Local Security Policy*** setting ***Network access: Sharing and security module for local accounts*** to • ***Classic - Local users authenticate as themselves***. (Open ***Control Panel:Administrative Tools***, click ***Local Security Settings*** and locate this setting under ***Security Settings:Local Policies:Security Options*** in the dialog.)
5	In the same dialog: • Make sure that the setting ***Network access: Let Everyone permissions apply to anonymous users*** is enabled.
6	Make sure that the user account which is running the UNICORN client has an equivalent account (using the same name and password) on the instrument server computer. A password is required and cannot be omitted.

Instrument server settings

The following settings should be applied to the instrument server computers using the ***Component Services***:

Step	Action
1	Open the ***Component Services*** dialog: 1 Choose ***Start*** 2 type ***dcomcnfg*** in the ***Search*** field and 3 press **Enter**.

Step	Action
2	Open the ***UNICORN Instrument Server.exe Properties*** dialog: 1 Click the ▷ beside the ***Component Services*** object 2 Click the ▷ beside the ***Computers*** object 3 Click the ▷ beside ***My Computer***. 4 Click the ▷ beside the ***DCOM Config***.  5 Locate ***UNICORN Instrument Server.exe*** in the list, right-click and choose ***Properties*** from the menu.
3	Add the built-in group ***Users*** (or ***Authenticated Users*** if the computer is used in a domain) and set ***Launch and Activation Permissions*** for the group: 1 Choose the ***Security*** tab. 2 Choose the ***Customize*** option in the***Launch and Activation Permissions*** field. 3 Click the ***Edit*** button. 4 Click the ***Add*** button in the ***Launch and Activation Permissions*** dialog. 5 Enter the group ***Users*** (or ***Authenticated Users*** if the computer is used in a domain) in the ***Select Users, Computers, or Groups*** dialog and click ***OK***.
4	Set the permissions for the new group in the ***Launch and Activation Permissions*** dialog. Select the group and click the checkboxes to ***Allow*** • ***Local Launch*** • ***Remote Launch*** • ***Local Activation*** and • ***Remote Activation*** Click ***OK*** to apply and close the ***Launch and Activation Permissions*** dialog.

Step	Action
5	Add the built-in group ***Users*** (or ***Authenticated Users*** if the computer is used in a domain) and set ***Access Permissions*** for the group: 1 Choose the ***Customize*** option in the***Access Permissions*** field. 2 Click the ***Edit*** button. 3 Click the ***Add*** button in the ***Launch and Activation Permissions*** dialog. 4 Enter the group ***Users*** (or ***Authenticated Users*** if the computer is used in a domain) in the ***Select Users, Computers, or Groups*** dialog and click ***OK***.
6	Set the permissions for the new group in the ***Access Permission*** dialog. Select the group and click the checkboxes to ***Allow*** • ***Local Access*** • ***Remote Access*** Click ***OK*** to apply and close the ***Access Permission*** dialog. Click ***OK*** to close the ***UNICORN Instrument Server Properties*** dialog.
7	Adjust the limits globally on the instrument server computer: 1 Right-click on ***My Computer*** and choose ***Properties*** from the menu. 2 Select the ***COM Security*** tab. 3 Click the ***Edit Limits*** button in the ***Launch and Activation Permissions*** field and allow ***Users*** to have ***Local Launch***, ***Remote Launch***, ***Local Activation*** and ***Remote Activation*** permissions. 4 Click the ***Edit Limits*** button in the ***Access Permissions*** field and allow ***Users*** to have ***Local Access*** and ***Remote Access*** permissions.
8	Click ***OK*** to close the ***My Computer Properties*** dialog.
9	Close the ***Component Services*** dialog and restart UNICORN. (Normally you will not need to restart the computer)

UNICORN client computer settings

The following settings should be applied to the remote client computers using the ***Component Services***:

Step	Action
1	Open the ***Component Services*** dialog: 1 Choose ***Start*** 2 type ***dcomcnfg*** in the ***Search*** field and 3 press **Enter**.
2	Open the ***My Computer Properties*** dialog: 1 Click the ▷ beside the ***Component Services*** object 2 Click the ▷ beside the ***Computers*** object 3 Right-click on ***My Computer*** and choose ***Properties*** from the menu.
3	In the tab ***Default Properties***: 1 Verify that ***Enable Distributed COM...*** is checked 2 Set ***Default Authentication Level*** to ***Connect*** 3 Set ***Default Impersonation Level*** to ***Identify***
4	In the ***Default Protocols*** tab: • Verify that ***Connection-oriented TCP/IP*** is on top of the list.
5	In the ***COM Security*** tab: 1 Click the ***Edit Default*** button in the ***Access Permissions*** field and allow ***Everyone*** to have ***Local Access*** and ***Remote Access*** permissions. 2 Allow ***Anonymous logon*** to have ***Local Access*** and ***Remote Access*** permissions. 3 Click the ***Edit Limits*** button in the ***Access Permissions*** field and allow ***Everyone*** to have ***Local Access*** and ***Remote Access*** permissions. 4 Allow ***Anonymous logon*** to have ***Local Access*** and ***Remote Access*** permissions.
6	Close the ***Component Services*** dialog.
7	Restart UNICORN on the client computers. (Normally you will not need to restart the computers)

4 Firewall exceptions

Introduction

If firewalls are used within the UNICORN network, the exceptions described in this chapter must be set in order for UNICORN to operate properly. However, the UNICORN installation will normally configure the firewall settings appropriately.

Note: *Firewall settings which concern the UNICORN flow scheme process picture function are listed in Chapter 3 OPC settings for UNICORN process picture, on page 28 as well as here.*

General firewall exceptions

Exceptions must be set for the following programs:

- ***OPCEnum.exe*** (usually found in ***C:\WINDOWS\system32***)
- ***UNICORNClient.exe*** (usually found in ***C:\Program Files\GE Healthcare\UNICORN\bin***)

Also, exceptions must be made for

- the TCP and UDP port ranges 40500 to 40510

  and

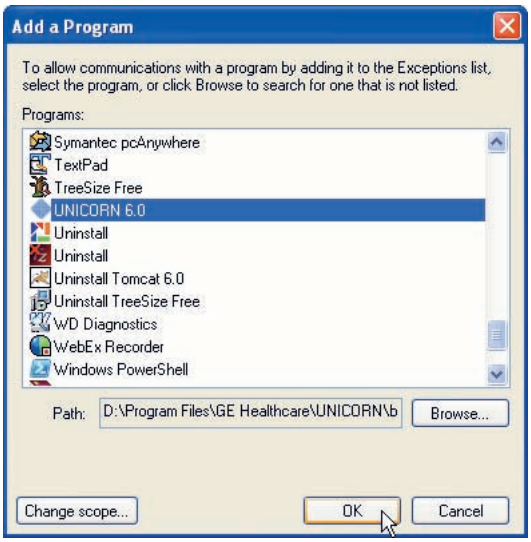
- port 135 (for DCOM communication as described in *Chapter 3 OPC settings for UNICORN process picture, on page 28*)

Define firewall exceptions

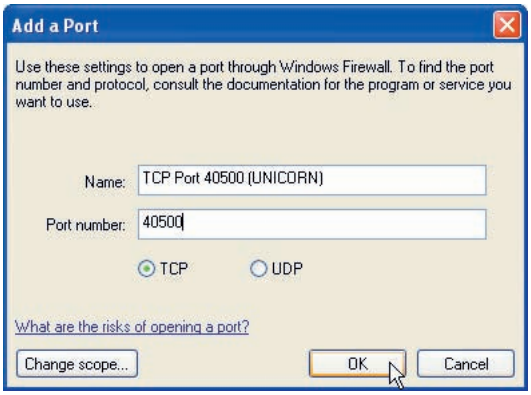
Follow the instructions below to define firewall excpetions in the ***Windows Firewall***:

Step	Action
1	Open the ***Windows Security Center***. (Choose menu item ***Start:All Programs:Accessories:System Tools:Security Center*** in Windows XP)
2	• Click ***Windows Firewall*** to open the settings dialog and • choose the ***Exceptions*** tab.

Step	Action
3	Click the ***Add Program...*** button to open the ***Add a Program*** dialog:



4	• Click the ***Browse*** button to locate and select the program files or • select the program in the list and • click the ***OK*** button to add the exception. Perform this step for ***UNICORNClient.exe*** and ***OPCEnum.exe***.

Step	Action
5	Click the ***Add Port...*** button in the ***Windows Firewall*** dialog, to open the ***Add a Port*** dialog: 
6	• Select to add a ***TCP*** port • Enter a name in the ***Name*** field • Enter the ***Port number*** and • Click the ***OK*** button to add the port exception. Repeat step 5 and 6 to add exceptions for all ***TCP*** ports between ***40500*** and ***40510***.
7	• Click the ***Add Port...*** button in the ***Windows Firewall*** dialog to open the ***Add a Port*** dialog again. • Select to add a ***UDP*** port • Enter a name in the ***Name*** field • Enter the ***Port number*** and • Click the ***OK*** button to add the port exception. Repeat this step to add exceptions for all ***UDP*** ports between ***40500*** and ***40510***.
8	Repeat step 5 and 6 to add an exception for ***TCP port 135***. Name this port ***DCOM***.

Step	Action
9	Click the ***OK*** button to close the ***Windows Firewall*** dialog and apply the changes.
10	Close the ***Windows Security Center***.

Instrument Server firewall exceptions

In addition to the general exceptions listed above, computers running as UNICORN instrument servers should have firewall exceptions for the following programs:

- ***UNICORN Instrument Server.exe*** (usually found in ***C:\Program Files\GE Healthcare\UNICORN\bin***)
- ***SystemInstallation.exe*** (usually found in ***C:\Program Files\GE Healthcare\UNICORN\bin***)

Follow the instructions above to enter these exceptions.

Database Server firewall exceptions

In addition to the general exceptions listed above, computers running as UNICORN database servers should have firewall exceptions for the following programs:

- ***Sqlservr.exe*** (usually found in ***C:\Program Files\Microsoft SQL Server\MSSQL10.UNICORN\MSSQL\Binn***)
- ***gehealth.exe*** (usually found in ***C:\Program Files\GE Healthcare\UNICORN\LicenseServer***)
- ***lmgrd.exe*** (usually found in ***C:\Program Files\GE Healthcare\UNICORN\LicenseServer***)

Follow the instructions above to enter these exceptions.

Also, UDP port 1434 should be opened. Name this exception ***SQL Server Browser***.

Note: *This port setting is a default for secure networks. If a higher level of security is needed, other settings must be selected. Contact GE Healthcare for advice.*

5 Database upgrade

Introduction

The SQL Server Express edition provided with the UNICORN 6 installation is suitable for small workgroups operating only two to three instrument servers sharing the same database. For organizations where larger groups of users need access to a common database it is recommended that the SQL Server edition is upgraded. This section describes how to perform an upgrade.

Prerequisites

The setup must be run by a user that is logged on as administrator. If the installation is performed from a remote share, you must use a domain account with read and execute permissions on the remote share.

Ensure that no other user is logged on to the database before the upgrade is performed.

Disable scheduled backups before upgrading

Before upgrading you must disable the scheduled backups in your present database installation. The table below describes how to do this:

Step	Action
1	Click the ***Database Management*** icon in the ***Administration*** module. *Result:* The ***Database Management*** dialog opens.
2	Click the ***Edit Backup Schedule*** button. *Result:* The ***Edit Backup Schedule Wizard*** opens.
3	Click the ***Next*** button to open the next wizard dialog.
4	Click and select the ***Disable backup schedule*** checkbox.
5	Click the ***Next*** button to proceed. *Result:* The next wizard dialog shows a confirmation message that you have disabled the backup schedule.
6	Click the ***Finish*** button to apply the settings.

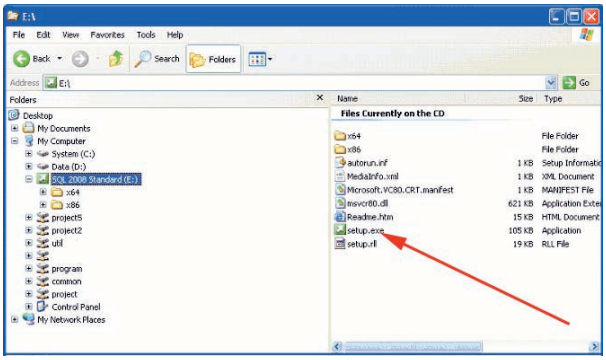
Step	Action
7	Click the ***Close*** button to close the ***Database Management*** dialog.
8	Exit UNICORN before proceeding with the upgrade.

Upgrade the SQL Server edition

The table below describes how to perform the upgrade.

Note: *Some of the images in the instruction have been cropped and do not show the available buttons on the bottom part of the dialog (**OK**, **Next**, **Back**, **Cancel**, **Help** etc.).*

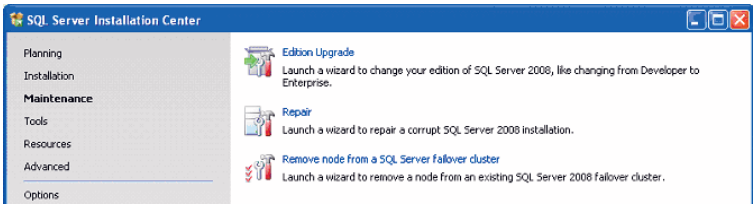
Step	Action
1	Browse to the root folder where the installation files are and double-click the file `setup.exe`



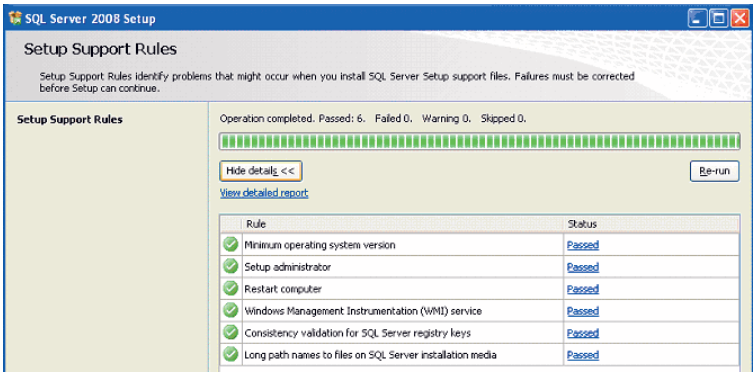
Result: The ***SQL Server Installation Center*** dialog opens.

2	Click the heading ***Maintenance*** in the left menu field.

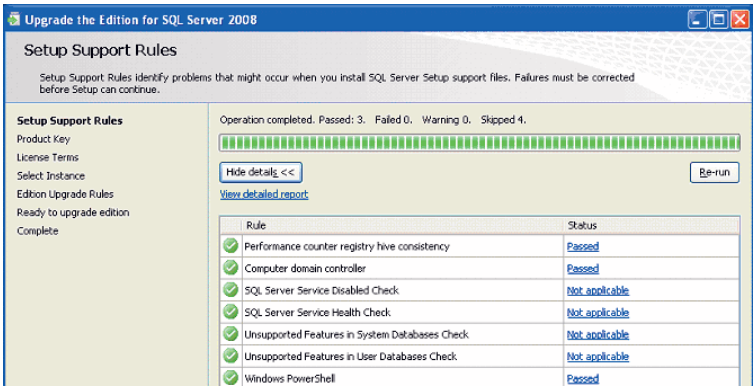
Step	Action
3	Choose the ***Edition Upgrade*** maintenance option.


SQL Server Installation Center
Planning
Installation
Maintenance
Tools
Resources
Advanced
Options
Edition Upgrade
Launch a wizard to change your edition of SQL Server 2008, like changing from Developer to Enterprise.
Repair
Launch a wizard to repair a corrupt SQL Server 2008 installation.
Remove node from a SQL Server failover cluster
Launch a wizard to remove a node from an existing SQL Server 2008 failover cluster.

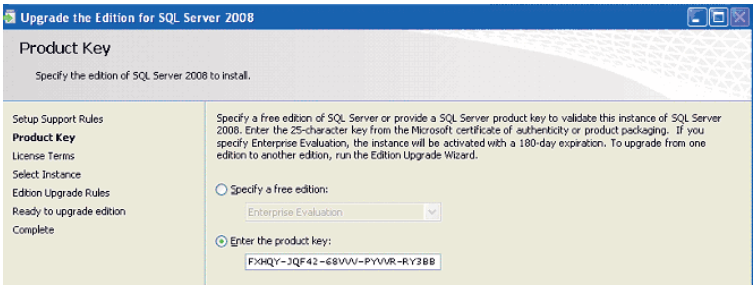
4	A ***Setup Support Rules*** dialog will open and run a discovery operation to identify possible problems with the support file installation. • Click the ***OK*** button to proceed after this operation step is completed.


SQL Server 2008 Setup
Setup Support Rules
Setup Support Rules identify problems that might occur when you install SQL Server Setup support files. Failures must be corrected before Setup can continue.
Setup Support Rules
Operation completed. Passed: 6. Failed 0. Warning 0. Skipped 0.
Hide details <<
Re-run
View detailed report
Rule
Status
Minimum operating system version
Passed
Setup administrator
Passed
Restart computer
Passed
Windows Management Instrumentation (WMI) service
Passed
Consistency validation for SQL Server registry keys
Passed
Long path names to files on SQL Server installation media
Passed

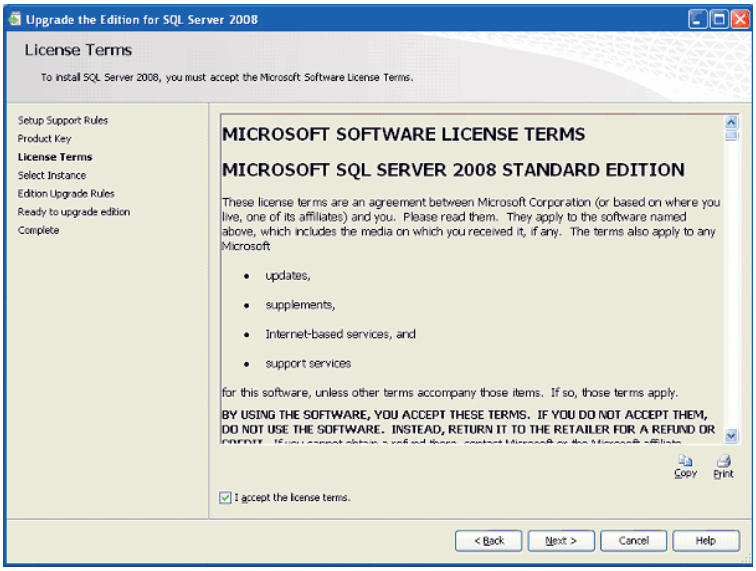
Step	Action
5	The discovery operation continues in a second dialog. • Click the ***Next*** button to proceed after this operation step is completed.



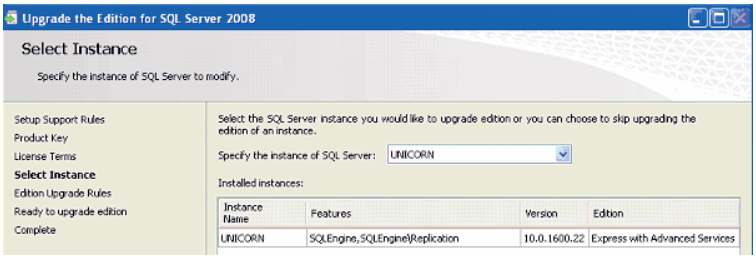
6	The ***Product Key*** dialog opens. • Select ***Enter the product key*** and • enter the 25-character product key. Click the ***Next*** button to proceed.


Upgrade the Edition for SQL Server 2008
Product Key
Specify the edition of SQL Server 2008 to install.
Setup Support Rules
Product Key
License Terms
Select Instance
Edition Upgrade Rules
Ready to upgrade edition
Complete
Specify a free edition of SQL Server or provide a SQL Server product key to validate this instance of SQL Server 2008. Enter the 25-character key from the Microsoft certificate of authenticity or product packaging. If you specify Enterprise Evaluation, the instance will be activated with a 180-day expiration. To upgrade from one edition to another edition, run the Edition Upgrade Wizard.
Specify a free edition:
Enterprise Evaluation
Enter the product key:
FXHQY-JQF42-6BVVV-PYVVR-RY3BB

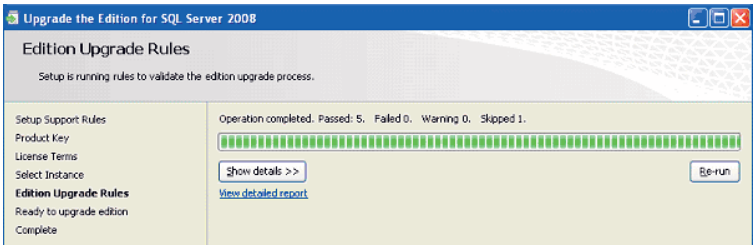
Step	Action
4	The ***License Terms*** dialog opens. • Read the license agreement • Select the checkbox to accept the terms • Click the ***Next*** button to proceed.


Upgrade the Edition for SQL Server 2008
License Terms
To install SQL Server 2008, you must accept the Microsoft Software License Terms.
Setup Support Rules
Product Key
License Terms
Select Instance
Edition Upgrade Rules
Ready to upgrade edition
Complete
MICROSOFT SOFTWARE LICENSE TERMS
MICROSOFT SQL SERVER 2008 STANDARD EDITION
These license terms are an agreement between Microsoft Corporation (or based on where you live, one of its affiliates) and you. Please read them. They apply to the software named above, which includes the media on which you received it, if any. The terms also apply to any Microsoft
updates,
supplements,
Internet-based services, and
support services
for this software, unless other terms accompany those items. If so, those terms apply.
BY USING THE SOFTWARE, YOU ACCEPT THESE TERMS. IF YOU DO NOT ACCEPT THEM, DO NOT USE THE SOFTWARE. INSTEAD, RETURN IT TO THE RETAILER FOR A REFUND OR
Copy
Print
I accept the license terms.
< Back
Next >
Cancel
Help

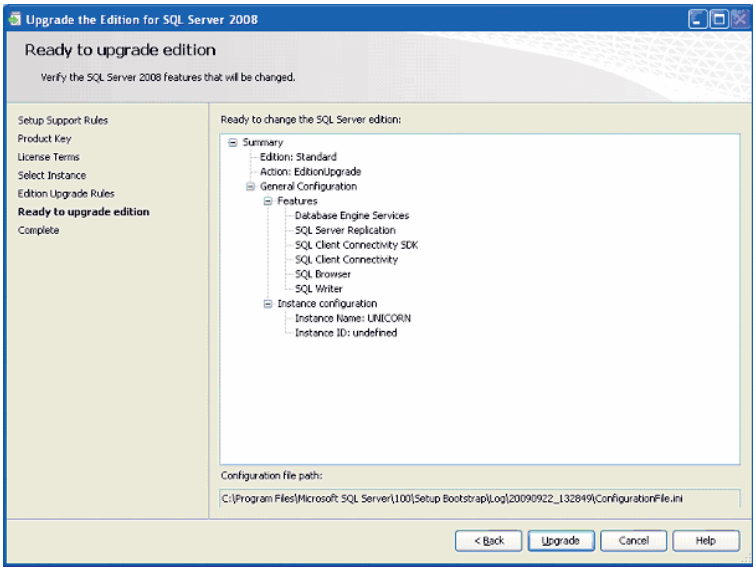
5	The ***Select Instance*** dialog opens. • Specify which SQL Server instance to upgrade • Click the ***Next*** button to proceed.

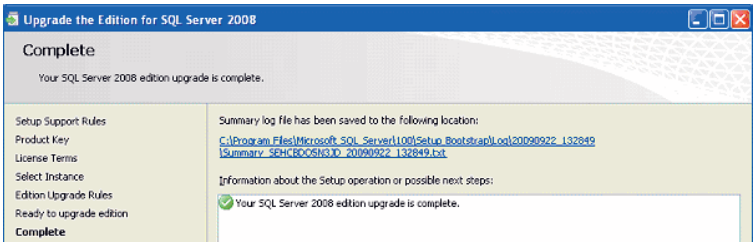


Step	Action
6	The ***Edition Upgrade Rules*** dialog opens. A configuration validation is performed before the upgrade can proceed. • After the validation is completed, click the ***Next*** button to proceed.



7	The ***Ready to upgrade edition*** dialog opens. A tree view of the selected installation options is shown. • Click the ***Upgrade*** button to proceed. During the upgrading process, the services will be restarted to register the new settings.

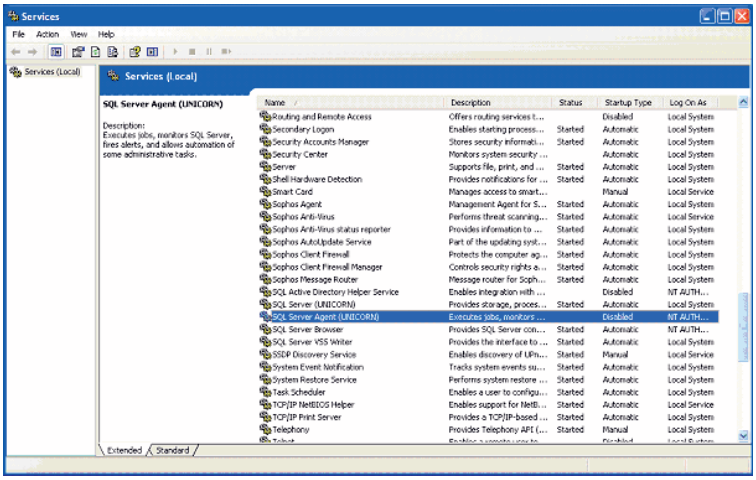


Step	Action
8	The ***Complete*** dialog opens. This dialog provides a link to a summary log file.  • Read the information in the log file and on the ***Complete*** page. • Click the ***Close*** button to close the wizard dialog. • Close the ***SQL Server Installation Center*** dialog. • If necessary (this will be listed in the summary) restart the server computer.

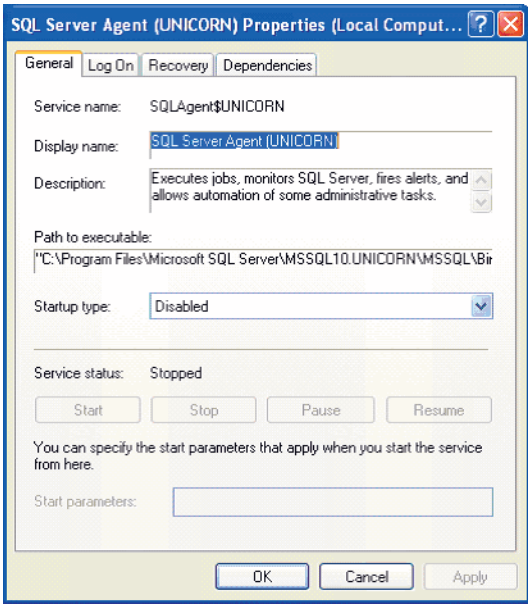
Actions after the upgrade

After the upgrade is finished, you must perform the following steps:

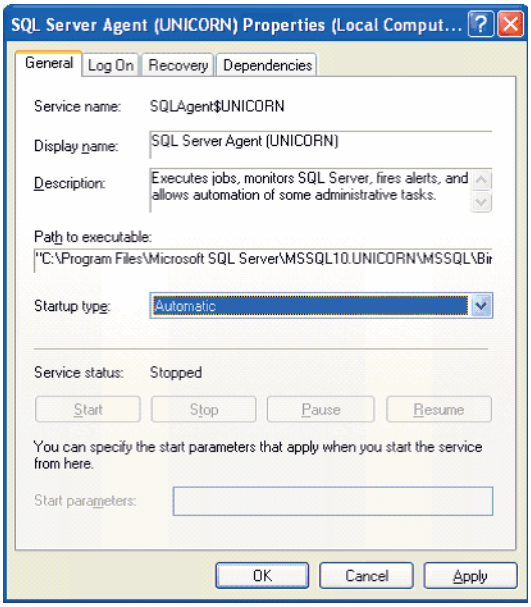
Step	Action
1	• Open the Windows ***Services Control Manager***. (***Control Panel:Administrative Tools:Services***) • Locate and select the ***SQL Server Agent***.



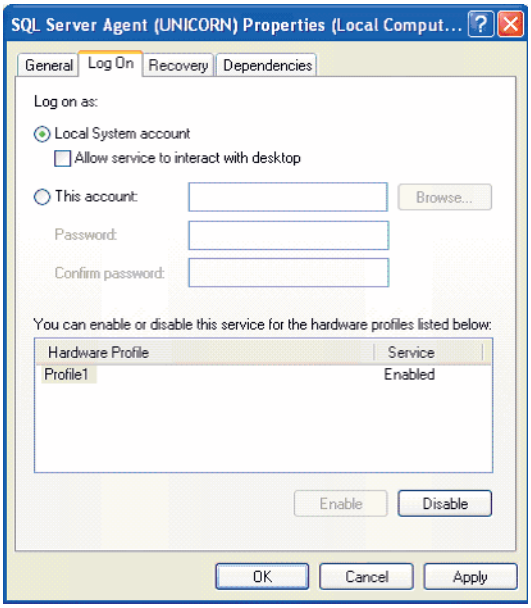
Step	Action
2	Right-click and choose the ***Properties*** menu item. *Result*: The ***SQL Server Agent Properties*** dialog opens.



Step	Action
3	Choose the ***Automatic*** option from the ***Startup type*** menu.



Step	Action
4	Click the ***Log On*** tab and select to let the ***SQL Server Agent*** log on as ***Local System*** account.



5	• Click the ***Apply*** button to apply the changes. • Click ***OK*** to close the ***Properties*** dialog. • Close the ***Services Control Manager*** and the ***Administrative Tools*** dialogs.
6	Re-enable the scheduled database backup. This is described in the *"UNICORN 6 Administration and Technical Manual"*. ***Note:*** *Verify that the scheduled database backups are performed.*

6 Manual uninstallation

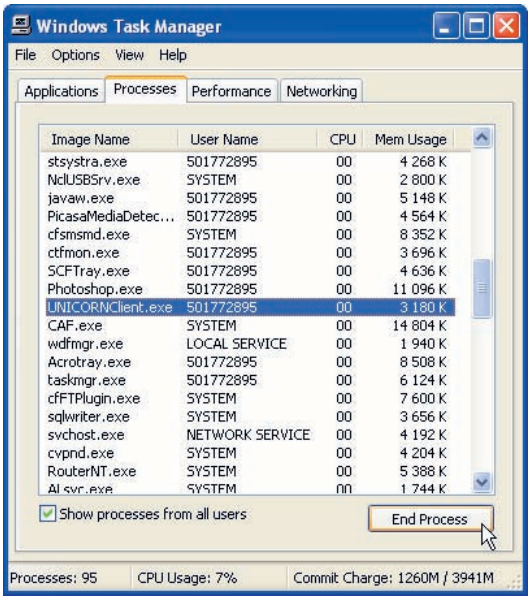
Introduction

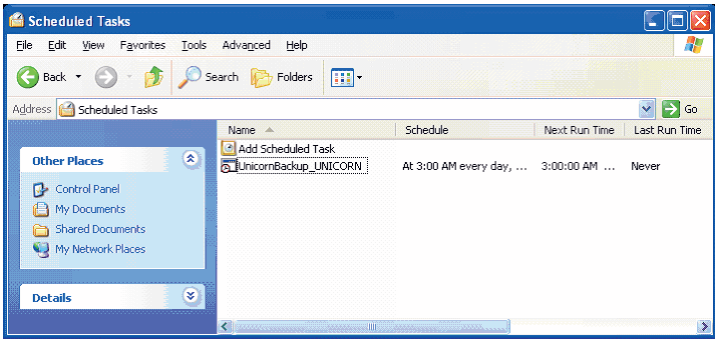
This chapter contains instructions for how to remove a UNICORN 6 and/or SQL Server installation manually in the event that the installation has become corrupt and cannot be removed in a regular manner.

Remove a UNICORN 6 installation

The instruction below describes how to remove the UNICORN 6 installation:

Step	Action
1	Open the ***Windows Task Manager***.


Windows Task Manager
File Options View Help
Applications Processes Performance Networking
Image Name User Name CPU Mem Usage
stsystra.exe 501772895 00 4 268 K
NclUSBSrv.exe SYSTEM 00 2 800 K
javaw.exe 501772895 00 5 148 K
PicasaMediaDetec... 501772895 00 4 564 K
cfsmsmd.exe SYSTEM 00 8 352 K
ctfmon.exe 501772895 00 3 696 K
SCFTray.exe 501772895 00 4 636 K
Photoshop.exe 501772895 00 11 096 K
UNICORNClient.exe 501772895 00 3 180 K
CAF.exe SYSTEM 00 14 804 K
wdfmgr.exe LOCAL SERVICE 00 1 940 K
Acrotray.exe 501772895 00 8 508 K
taskmgr.exe 501772895 00 6 124 K
cfFTPlugin.exe SYSTEM 00 7 600 K
sqlwriter.exe SYSTEM 00 3 656 K
svchost.exe NETWORK SERVICE 00 4 192 K
cvpnd.exe SYSTEM 00 4 204 K
RouterNT.exe SYSTEM 00 5 388 K
Show processes from all users
End Process
Processes: 95 CPU Usage: 7% Commit Charge: 1260M / 3941M

Step	Action
2	Select and end the following processes: • UNICORN client • UNICORN instrumentserver • UNICORN Support Service • NextCU • VIDMain Close the ***Windows Task Manager***.
3	Execute the following command: • ***msiexec.exe /x {15F8765A-5854-4E3B-83EA-C38BBF390DCD} /qb*** *Result:* A silent uninstallation is performed.
4	Remove the UNICORN backup task: 1 Open the ***Scheduled Tasks*** dialog from the Windows ***Control Panel***.  2 Select the UNICORN backup task. 3 Click the ***Delete this item*** option in the ***Folder Tasks*** menu. 4 Close the ***Scheduled Tasks*** dialog.
5	Remove the folder ***C:\Program Files\GE Healthcare\UNICORN***. ***Note:*** *The actual search path to this folder depends on what was selected at the UNICORN installation.* *This folder can contain backup files, log files and error reports that you may wish to save for future reference.*
6	Reboot the computer.

Remove the UNICORN database instance

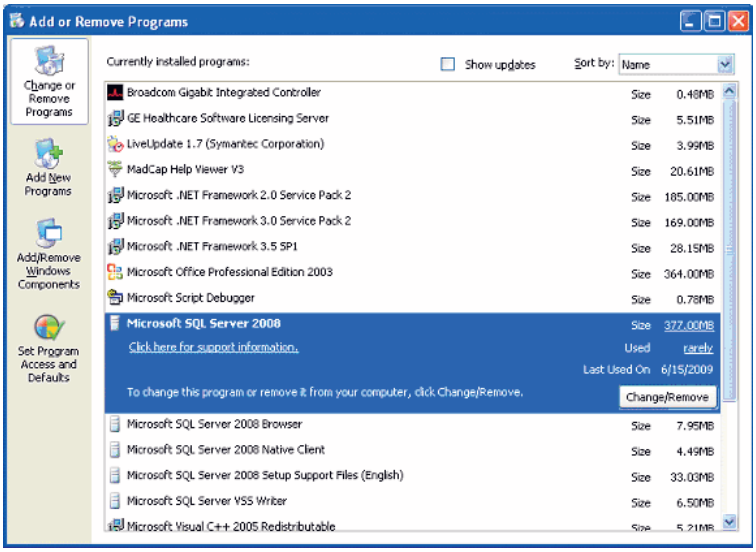
The instruction below describes how to remove the UNICORN database instance using the Windows ***Add or Remove Programs*** routine.

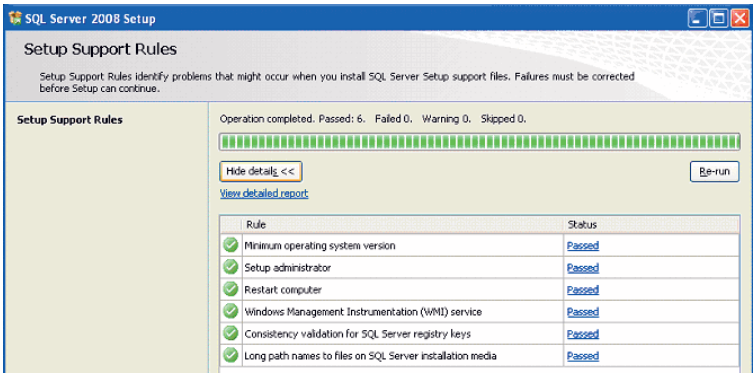
Note: *Some of the images in the instruction have been cropped and do not show the available buttons on the bottom part of the dialog (**OK**, **Next**, **Back**, **Cancel**, **Help** etc.).*

NOTICE

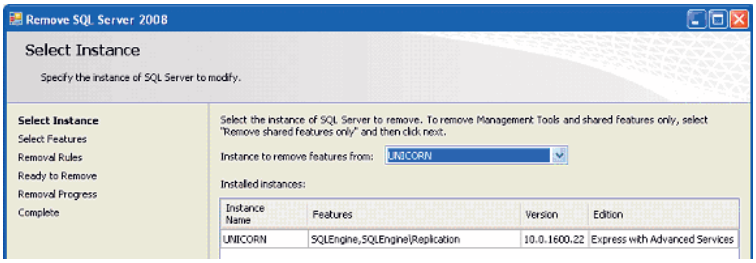
If more than one database instance is installed on the computer you must ensure that only the UNICORN database instance is removed. Do not remove Setup Support Files, Native Client or any SQL Server files, to ensure that the other database instances will remain operable.

Step	Action
1	Start the Windows ***Control Panel*** and choose ***Add or Remove Programs***.
2	Select ***Microsoft SQL Server 2008*** and click the ***Change/Remove*** button.

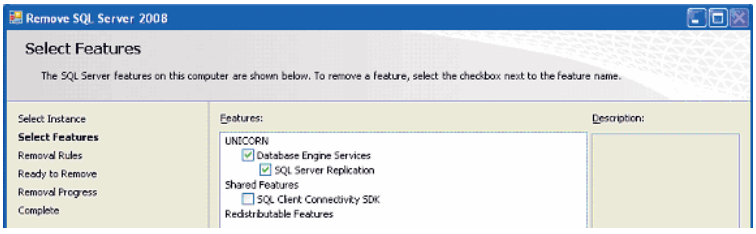

Add or Remove Programs
Change or Remove Programs
Add New Programs
Add/Remove Windows Components
Set Program Access and Defaults
Currently installed programs:
Show updates
Sort by: Name
Broadcom Gigabit Integrated Controller Size 0.48MB
GE Healthcare Software Licensing Server Size 5.51MB
LiveUpdate 1.7 (Symantec Corporation) Size 3.99MB
MadCap Help Viewer V3 Size 20.61MB
Microsoft .NET Framework 2.0 Service Pack 2 Size 185.00MB
Microsoft .NET Framework 3.0 Service Pack 2 Size 169.00MB
Microsoft .NET Framework 3.5 SP1 Size 28.15MB
Microsoft Office Professional Edition 2003 Size 364.00MB
Microsoft Script Debugger Size 0.78MB
Microsoft SQL Server 2008 Size 377.00MB
Click here for support information. Used rarely
Last Used On 6/15/2009
To change this program or remove it from your computer, click Change/Remove.
Change/Remove
Microsoft SQL Server 2008 Browser Size 7.95MB
Microsoft SQL Server 2008 Native Client Size 4.49MB
Microsoft SQL Server 2008 Setup Support Files (English) Size 33.03MB
Microsoft SQL Server VSS Writer Size 6.50MB
Microsoft Visual C++ 2005 Redistributable Size 5.21MB

Step	Action
3	The ***SQL Server 2008*** dialog opens. • Choose the ***Remove*** option.
4	A ***Setup Support Rules*** dialog will open and run a discovery operation to identify possible problems with the maintenance operation. • Click the ***OK*** button to proceed after this operation step is completed. 

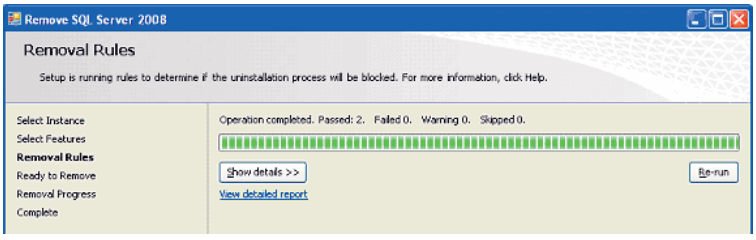
Step	Action
5	• Select ***UNICORN*** as the ***Instance to remove features from*** and • click the ***Next*** button to proceed.

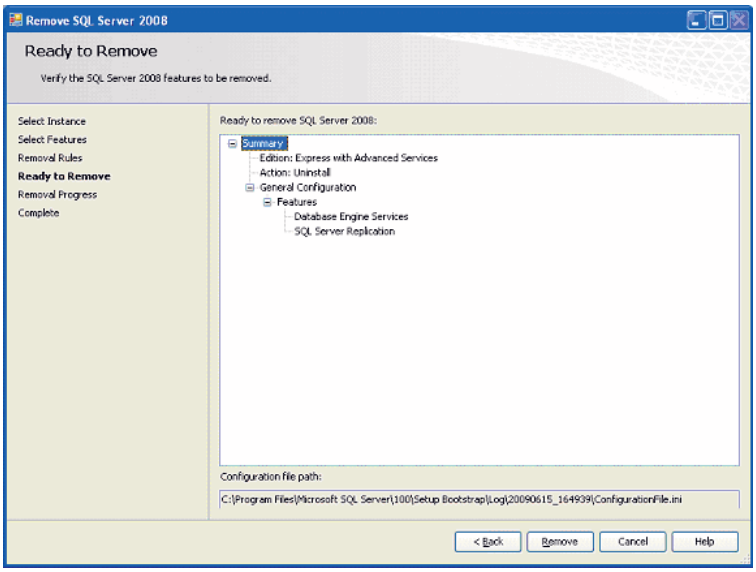
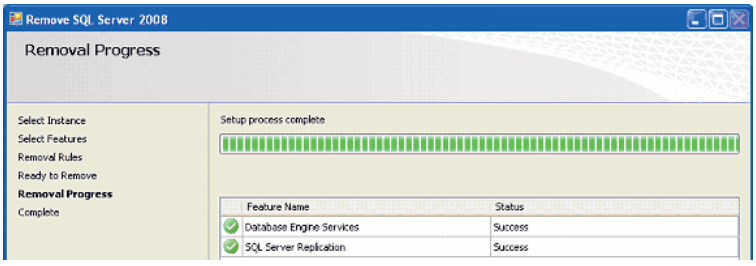


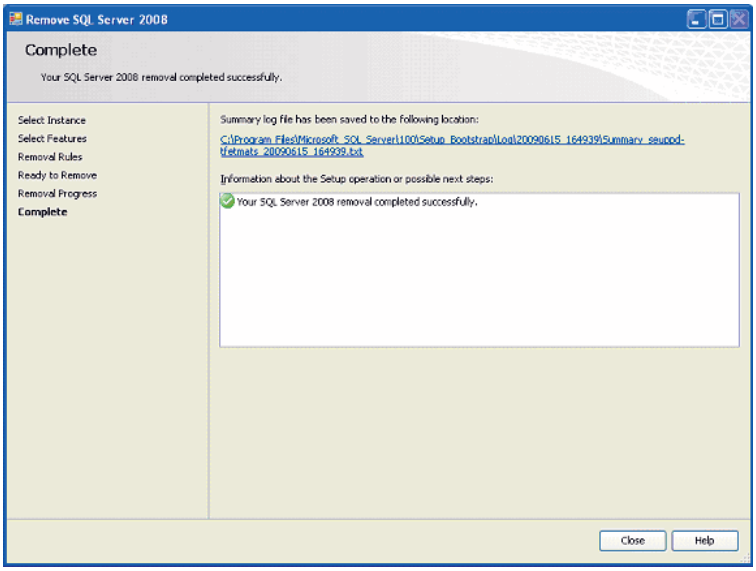
6	• Select ***Database Engine Services*** and ***SQL Server Replication*** and • click the ***Next*** button to proceed.



7	Setup will run ***Removal Rules*** to identify possible problems with the removal. • Click the ***Next*** button to proceed after this operation step is completed.


Remove SQL Server 2008
Removal Rules
Setup is running rules to determine if the uninstallation process will be blocked. For more information, click Help.
Select Instance
Select Features
Removal Rules
Ready to Remove
Removal Progress
Complete
Operation completed. Passed: 2. Failed 0. Warning 0. Skipped 0.
Show details >>
Re-run
View detailed report

Step	Action
8	A summary of the removal operation will be shown. • Click the ***Remove*** button to proceed. 
9	The progression of the removal operation will be shown. • Click the ***Next*** button to proceed after this operation step is completed. 

Step	Action
10	The ***Complete*** dialog opens. This dialog provides a link to a summary log file.  • Read the information in the log file and on the ***Complete*** page. • Click the ***Close*** button to close the wizard dialog. • Close the ***Add or Remove Program*** dialog.

Uninstalling an existing instance of SQL Server

The instruction below describes how to uninstall SQL Server if the procedure described above cannot be used.

NOTICE

The uninstallation procedure below should only be used if the UNICORN database instance is the only database instance installed on the computer. The procedure described will cause all Microsoft SQL Server-related entries to be completely deleted from the computer.

Step	Action
1	Perform a backup of the Windows Registry.
2	Delete the registry keys listed below: • ***HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL Server*** • ***HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\MSSQLServer***
3	• Locate and select the key ***HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\Session Manager***. • If there is an entry (of the ***Type REG_MULTI_SZ***) named ***FileRenameOperations***: 1 Right-click the entry and choose the ***Modify*** menu command. *Result:* The ***Edit Multi-String*** dialog opens. 2 Clear the ***Value data***. 3 Click ***OK*** to close the dialog and update the ***Data*** column. • If there is a key ***HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\Session Manager\FileRenameOperations***: 1 Right-click the key and choose the ***Rename*** menu command. 2 Change the name to ***FileRenameOperations2***. ***Note:*** *After a successful installation, the name of this key should be restored to* ***FileRenameOperations***.
4	Delete the SQL Server related services from • ***HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\MSSQL***

Step	Action
5	Rename all folders on Microsoft SQL Server under ***C:\Program Files*** and in any data drive.
6	• Download the cleanup utility from ***http://support.microsoft.com/kb/29031*** • Use this utility to remove the SQL Server entries and MSXML6.
7	Reboot the computer.

TIP: For more information refer to ***http://msdn.microsoft.com/en-us/library/ms143412.aspx***

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